The number of children cared for in day care facilities has increased dramatically in the past decade as mothers of young children have increasingly entered the work force. These children, now numbering over 11 million, are at a markedly increased risk for multiple diarrheal illnesses, such as hepatitis A, giardiasis, and cryptosporidiosis; respiratory illnesses; and middle ear infections. Emerging infections transmitted by contaminated food items and public water supplies place entire communities at risk. Additionally, many of these illnesses are carried home to infect other members of a household. Clearly, emerging infections can affect people everywhere, regardless of lifestyle, cultural or ethnic background, or socioeconomic status.

Once considered "exotic," tropical infectious diseases have an increasing impact on the American public. Although the true impact is unknown, several recent examples include severe illness and at least one death due to cholera among international airline passengers arriving in California; malaria-induced fevers in residents of southern California and immigrants in North Carolina; fever and heart failure in New York and Canada among patients who received blood transfusions contaminated with the bloodborne parasite that causes Chagas' disease in Latin America; and a newly-described form of the parasitic blood and bone marrow infection, leishmaniasis, in returning Desert Storm troops.

Examples of Emerging Infectious Diseases, United States, 1993

- *E. coli* O157:H7 disease
- Cryptosporidiosis
- Coccidioidomycosis
- Multiply resistant pneumococcal disease
- Vancomycin-resistant enterococcal infections
- Influenza A/Beijing/32/93
- Hantavirus infections

Examples of Emerging Infectious Diseases, Outside the United States, 1993

- Cholera in Latin America
- Yellow fever in Kenya
- *Vibrio cholerae* O139 in Asia
- *E. coli* O157:H7 in South Africa and Swaziland
- Rift Valley Fever in Egypt
- Multidrug-resistant *Shigella dysenteriae* in Burundi
- Dengue in Costa Rica
- Diphtheria in Russia

Early in 1993, hamburgers contaminated with the bacterium *Escherichia coli* O157:H7 and served at a fast-food restaurant chain caused a multi-state outbreak of hemorrhagic colitis and serious kidney disease, resulting in the deaths of at least four children.

In the spring of 1993, a municipal water supply contaminated with the intestinal parasite *Cryptosporidium* caused the largest recognized outbreak of waterborne illness in the history of the United States; an estimated 370,000 persons in Milwaukee, Wisconsin had prolonged diarrhea, and approximately 4,100 persons required hospitalization.

In both outbreaks, inadequate surveillance and inaccurate diagnosis interfered with public health efforts. Both *E. coli* and *Cryptosporidium* were first recognized as significant human pathogens in the early 1980s, but neither received adequate public health attention.

"...the microbe that felled one child in a distant continent yesterday can reach yours today and seed a global pandemic tomorrow."
Joshua Lederberg

From a historical perspective, cholera, smallpox, and the plague are examples of infectious diseases that spread globally with devastating impact. In modern times, travel and commerce have fostered the worldwide spread of HIV/AIDS and influenza as well as the reemergence of cholera as a global health threat. As Nobel Laureate, Dr. Joshua Lederberg has stated, "The microbe that felled one child in a distant continent yesterday can reach yours today and seed a global pandemic tomorrow."

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The public health infrastructure of this country is poorly prepared to confront the emerging disease problems of a rapidly changing world. Current systems that monitor infectious diseases domestically and internationally are inadequate to confront the present and future challenges presented by emerging infections. Many foodborne and waterborne disease outbreaks go unrecognized or are detected late; the magnitude of drug resistance is unknown; and global surveillance is rudimentary.

National surveillance of infectious diseases in the United States is heavily dependent upon voluntary collaboration between the Centers for Disease Control and Prevention (CDC) and state and local health de-